System-level Uncertainty Quantification Method Development and Validation

Completed Technology Project (2016 - 2022)

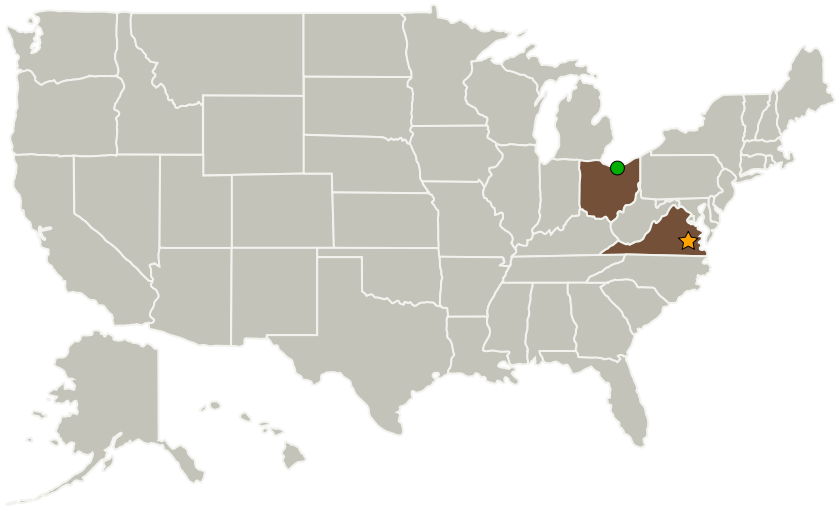
Project Introduction

The purpose of the System-level Uncertainty Quantification Method Development and Validation is to develop and validate a system level uncertainty propagation methodology to guide uncertainty-informed decision-making by identifying fundamental research areas that will reduce the system performance uncertainty.

Anticipated Benefits

Enables the identification of sources of uncertainty in analysis tools, ground test data, and flight test data that most influence performance metrics by leveraging and contributing to National Programs. Results to be used as guide for future research investments, inform conceptual design processes, and improve mission/system requirments for future projects.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
●Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio

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Primary U.S. Work Locations	
Ohio	Virginia

Project Website:

https://www.nasa.gov/aeroresearch/programs/aavp/ht

Organizational Responsibility

Responsible Mission Directorate:

Aeronautics Research Mission Directorate (ARMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Advanced Air Vehicles

Project Management

Program Director:

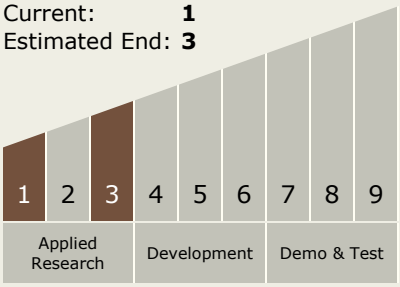
James A Kenyon

Project Manager:

Charles P Leonard

Technology Maturity (TRL)

Start: **1**
Current: **1**
Estimated End: **3**



Technology Areas

Primary:

Continued on following page.

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Technology Areas *(cont.)*

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.3 Simulation
    - TX11.3.6 Uncertainty Quantification and Nondeterministic Simulation Methods

Target Destination

Earth